

Application No. 10/662,478
Amendment Dated April 24, 2008
Reply to Office Action dated January 25, 2008

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A charge coupled device (CCD) camera that compensates for defective CCDs, comprising
 - a shutter[,] adapted to adjust incident light for a specific amount of time;
 - a shutter driving unit[,] adapted to drive the shutter;
 - a CCD module[,] comprising a plurality of CCDs that are adapted to output electric signals based on an amount of light incident through the shutter;
 - a memory[,] adapted to store electric signals provided by the respective CCDs transmitted from the CCD module; and
 - a control unit[,] adapted to perform the following operations:
 - control the shutter driving unit to periodically drive the shutter;
 - sequentially storing in the memory photo-electrically converted signals with respect to the individual CCDs of the CCD module;
 - comparing the respective CCD signals stored in the memory to a preset CCD defect threshold level to detect location information of CCDs that output signals larger than the CCD defect threshold level; and
 - replacing each of the respective signals from the CCDs that output signals larger than the CCD defect threshold level with a respective average signal representing an average of the signals output by the CCDs adjacent to the respective CCDs that output the larger signals based on the location information.
2. (original) The CCD camera according to claim 1, wherein the control unit is adapted to control the shutter driving unit to operate the shutter at a low speed.

3. (original) The CCD camera according to claim 1, wherein the control unit is adapted to control the shutter driving unit to operate the shutter at a low speed in a predetermined interval based on a vertical period of the CCD data.

4. (original) The CCD camera according to claim 1, wherein the control unit is adapted to control the shutter driving unit to alternately operate the shutter in odd fields and even fields of the CCDs at the low speed.

5. (currently amended) The CCD camera according to claim 1, wherein:

during the comparing operation, the control unit amplifies the electric signals of the individual CCDs read out of the memory to a certain level and compares the amplified electric signals to the CCD defect threshold level;

~~during~~ during the comparing operation, the control unit compares the electric signals of the individual CCDs to the CCD defect threshold level; and

during the replacing operation, the control unit arranges and stores in a second region of the memory at a descending order of signal values the location information relating to the CCDs having electric signals larger than the CCD defect threshold level.

6. (currently amended) The CCD camera according to claim 1 further comprising:
a second memory[[,]] adapted to store the location information of defective CCDs, wherein during the comparing operation, the control unit compares the electric signals of the individual CCDs to the CCD defect threshold level, and during the replacing operation the control unit arranges and stores in the second memory at a descending order of signal values the location information relating to the CCDs having electric signals larger than the CCD defect threshold level.

7. (original) A method for controlling a CCD camera to correct for defective CCDs, comprising:
 - exposing CCDs periodically to light for a predetermined amount of time;
 - sequentially storing electric signals of individual CCDs based on the exposure;
 - sequentially reading out the stored electric signals of the individual CCDs;
 - comparing the electric signals to a preset CCD defect threshold level; storing location information relating to CCDs having electric signals larger than the CCD defect threshold level as a result of the comparison; and
 - replacing each of the individual signals from the CCDs for which the location information is stored, with an average signal representing an average of the signals output by the CCDs adjacent to the individual CCDs based on the location information.
8. (original) The method according to claim 7, wherein the step of comparing comprises:
 - amplifying the electric signals of the individual CCDs; and
 - comparing the amplified electric signals of the CCDs to the CCD defect threshold level.
9. (original) The method according to claim 7, further comprising:
 - arranging in a descending order of signal values the location information relating to the CCDs having electric signals larger than the CCD defect threshold level, after comparing the electric signals of the individual CCD devices to the CCD defect threshold level.
10. (original) The method according to claim 9, wherein:
 - the storing step comprises storing the arranged signal values arranged in the arranging step.